

C L A I M S

1. A device for the continuous filling and closing of cardboard/plastic composite packages which are open on one side, in particular beverage packages, with a filling zone for filling the open packages (P), and a closing zone for closing the open package end, wherein the individual zones are rotating functional wheels with recesses (12) arranged on the outside, including a filling wheel (3) and a closing wheel (4), wherein the individual packages (P) are arranged in cell cages (8) which are successively transferred to the individual wheels (3, 4), wherein the cell cages (8) are held in the recesses (12) of the wheels (3, 4) in a non-positive manner by means of magnets (19),

c h a r a c t e r i s e d i n t h a t
for transferring the cell cages (8), transfer wheels (6, 6') with recesses (12') arranged on the outside are provided between the individual wheels (3, 4,) and in that the transfer wheels (6, 6') comprise means for rotating the cell cages (8) in their recesses (12').

2. The device according to claim 1,
c h a r a c t e r i s e d i n t h a t
filling takes place in an aseptic way; in that for the purpose of sterilising the packages (P), a sterilising wheel (2) is provided upstream of the filling wheel (3), and in that the entire transport

zone from the sterilising wheel (2) to the filling wheel (3) to and including the closing wheel (4) is a closed sterile channel (7).

3. The device according to claim 2,
c h a r a c t e r i s e d i n t h a t
upstream of the sterilising wheel (2), a prefolding wheel (1) for prefolding the still open end of the package is provided.
4. The device according to any one of claims 1 to 3,
c h a r a c t e r i s e d i n t h a t
downstream of the closing wheel (4), a package form wheel (5) to form a cuboid package and to fold back the still protruding ears of the package is provided.
5. The device according to any one of claims 1 to 4,
c h a r a c t e r i s e d i n t h a t
as a means for rotating the cell cages in their recesses (12'), for each recess (12') a rotatably held control element (25) is provided which by way of a drive is rotated such that the cell cage (8) adjoins the magnets (19) of the functional wheels (1, 2, 3, 4, 5) (inward transfer) or is detached from them (outward transfer) without any jerking or jolting.
6. The device according to claim 5,
c h a r a c t e r i s e d i n t h a t
the control element (25) comprises a form which interacts in a positive-locking manner with the cell cage (8).

7. The device according to claim 5 or 6,
c h a r a c t e r i s e d i n t h a t
the control system is a cam control with a fixed
control slide (27) for guiding a sliding block (28)
arranged on the control element (25).
8. The device according to any one of claims 1 to 7,
c h a r a c t e r i s e d i n t h a t
guide rails (24) for constrained guidance of the cell
cages (8) are arranged in the region of the transfer
wheels (6, 6'), at a distance from these transfer
wheels (6, 6').
9. The device according to any one of claims 1 to 8,
c h a r a c t e r i s e d i n t h a t
all wheels (1, 2, 3, 4, 5) including the transfer
wheels (6, 6') are arranged in one plane, and in that
the empty packages (P) are fed from above into the
cell cages (8), and the full and closed packages (P')
are removed upward from the cell cages (8).
10. The device according to claim 9,
c h a r a c t e r i s e d i n t h a t
inserting and removing the packages (P) into/from the
cell cages (8) takes place along a helical path.
11. The device according to any one of claims 1 to 10,
c h a r a c t e r i s e d i n t h a t
the number of cell cages (8) used is finite, and
corresponds to the number of the maximum occupiable
accommodation stations of all wheels (1, 2, 3, 4, 5)
and transfer wheels (6, 6').

12. A cell cage for the transport of cardboard/plastic composite packages open on one side, in particular beverage packages, for use with the device according to any one of claims 1 to 11,
c h a r a c t e r i s e d b y
an open-top cell body (15) for accommodating a package (P) to be filled, and at least one collar (16, 17), connected to the cell body (15), which collar comprises at least one upward or downward protruding driver element (21).
13. The cell cage according to claim 12,
c h a r a c t e r i s e d i n t h a t
the cell cage (8) comprises an upper collar (16) and a lower collar (17).
14. The cell cage according to claim 12 or 13,
c h a r a c t e r i s e d i n t h a t
each collar (16, 17) comprises at least one bearing pin (18).
15. The cell cage according to claim 14,
c h a r a c t e r i s e d i n t h a t
each bearing pin (18) is made from a ferromagnetic material.
16. The cell cage according to one of claims 12 to 13,
c h a r a c t e r i s e d i n t h a t
each cell body (15) comprises four wall plates (15A, 15B, 15C, 15D) and a cell floor (20).

17. The cell cage according to claim 16,
c h a r a c t e r i s e d i n t h a t
the cell floor (20) is designed so as to be height-
adjustable within the cell body (15).
18. The cell cage according to any one of claims 11 to
17,
c h a r a c t e r i s e d i n t h a t
the driver element (21) at the same time serves as an
index pin to determine the orientation of the cell
cage (8).